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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,598	12/29/1999	RAYMOND C. EDMONDS	042390.P7353	1187

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,598

Applicant(s)

RAYMOND C. EDMONDS

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,10-13,15-22,24 and 26-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,10-13,15-22,24 and 26-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. In view of the of the appeal brief filed on 01/04/05, PROSECUTION IS HEREBY REOPENED, as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 12 rejected under 35 U.S.C. 102(b) as being anticipated by Nobumasa et al. (Japanese publication number 55-009276).

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Regarding claim 1, Nobumasa et al teach a method comprising identifying, by a video controller (11), a first updated portion of first video image data that changed since a previous transmission to the first display (16-1...16-4); transmitting a first updated portion of the first video image data from the video controller to the first display device (14, 16-1, ..16-4, 17-1...17-4), and the video memory (13) is branched with a distributor (14)); identifying, by the video controller, a second updated portion of second video image data that has changed since a previous transmission to a second display device (16-1...16-4);, and transmitting the second updated portion of second video image data from the video controller to the second display device(14, 16-1, ..16-4, 17-1...17-4), and the video memory (13) is branched with a distributor (14)) where the first updated portion and the second updated portion are transmitted over a shared communication (distributor (14)) channel coupled between the video controller (11), the first display device and second display device (17-1...17-4). See the abstract.

Regarding claim 2, Nobumasa teaches refreshing a first displayed image in the first display device from the first video memory (see the abstract, 13, 16-1, 17-1).

Regarding claim 12, Nobumasa teaches the first portion includes an address to identify the first video device and the second portion includes an address to identify the second video device (address circuit (15)).

3. Claims 1-2 and 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Dye (USPN 4965559).

Regarding claim 1, Dye teaches a method comprising identifying, by a video controller (Fig. 2 (30)) a first updated portion of first video image data that changed since a previous transmission to the first display device (col. 3, lines 50-53, col. 3, lines 60-67, the two ports operating independently allowing the video data to refresh the screens via the ports, col. 4, lines 1-2, and Fig. 3 (52)); transmitting a first updated portion of the first video image data from the video controller to the first display device (Fig. 2 (14), col. 4, lines 11-14, provide independent video graphics information to each of the four independent displays, and Fig. 4), identifying, by the video controller (Fig. 2 (30)), a second updated portion of second video image data that has changed since a previous transmission to a second display device ((col. 3, lines 50-53, col. 3, lines 60-67, the two ports operating independently allowing the video data to refresh the screens via the ports, col. 4, lines 1-2, and Fig. 3 (52))); and transmitting the second updated portion of second video image data from the video controller to the second display device(Fig. 2 (16), col. 4, lines 11-14, provide independent video graphics information to each of the four independent displays, and Fig. 4), wherein the first updated portion and the second updated portion are transmitted over a shared communication (Fig. 3 (P2, 32) and col. 4, lines 14-22) channel coupled between the video controller (Fig. 2 (30)), the first display device and second display device (Fig. 2 (14, 16)).

Regarding claim 34, Dye teaches a method comprising: detecting, by a display device, an updated portion of video image data receiver over a shared communication channel (col. 3, lines 40-43 and Fig. 3 (52)); updating a video memory of the display device if an address associated with the updated portion of the video data matches a display device address (X and Y addressing

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through graphic mode and col. 3, lines 49-50); and refreshing a displayed image in the display device from the video memory (col. 3, lines 50-59 GSP (52) controlling refresh cycles and display functions.).

Regarding claim 2, Dye teaches refreshing a first displayed image in the first display device from a first video memory of the first display device (col. 3, lines 60-67).

Regarding claim 35, Dye teaches the updated portion of video image data represents video image data that has changed since a previous transmission to the display device and excludes a substantial portion of the video image data that is unchanged since the previous transmission to the display device(col. 3, lines 50-53, col. 3, lines 60-67, the two ports operating independently allowing the video data to refresh the screens via the ports, col. 4, lines 1-2, and Fig. 3 (52)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 3, 5, 10-13 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye (USPN 4965559) in view of Hampel et al. (USPN 6310814).

Regarding claims 3, 5 and 37-38, Dye does not teach updating the video memory being done in both regular and irregular intervals. Hampel on the other hand teaches a memory controller issuing commands to perform various operations requiring different time intervals (such as tRP, TRAS), for completion. See col. 6, lines 46-67. For example, Hampel illustrates as shown in Fig. 3 timing diagram that illustrates the elapsed time required to perform sixteen refresh operations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify a graphic processor (52) shown in Fig. 3 to incorporate Hampel's refreshing operations as demonstrated in Fig. 2 in order to manage functionalities of RDRAM devices as taught by Hampel (col. 4, lines 29-32).

Regarding claim 10, Hampel teaches the first portion and the second portion are formatted differently (see. col. 7, lines 4-37, Hampel discloses RDRAM command interface such that various refresh operations may be commanded through formatting).

Regarding claim 11, Hampel first portion and the second portion are formatted alike(see. col. 7, lines 4-37, Hampel discloses RDRAM command interface such that various refresh operations may be commanded through formatting).

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Regarding claim 12, Dye teaches the first portion includes an address to identify the first video device and the second portion includes an address to identify the second video device (col. 3, lines 4-9)

Regarding claim 13, Hampel teaches transmitting a second portion of data to the first display device; time-stamping the first and second portions before transmission; and synchronizing a presentation of the first and second portions based on the time-stamping (see col. 9, lines 31-37. Hampel indicates the timing of the constituent precharge, activate and precharge post refresh operations can be enforced by the memory controller. It would have been obvious to utilize the memory controller for time-related comparisons).

Regarding claim 36, Dye teaches prior to detecting the updated portion of video image data, receiving the display device address assigned to the display device during display device initialization (col. 3, lines 4-9)

5. Claims 15-22, 24 and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye (USPN 4965559) in view of Knox et al. (USPN 6323854).

Regarding claim 22, Dye teaches a system comprising a shared communication channel (Fig. 3(P2, 32); a first display device coupled to the shared communication channel (Fig. 2 (32, 14), Fig. 3 (P2)) and a second display device coupled to the shared communication channel (Fig.

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2 (32, 16), Fig. 3 (P2)), and a video controller coupled to the shared communication channel (Fig. 2 (30, P2, 32)), to transmit an identified first updated portion of first video image data that has changed since a previous transmission to the first display device over the shared communication channel to the first display device (col. 3, lines 50-53, col. 3, lines 60-67, the two ports operating independently allowing the video data to refresh the screens via the ports, col. 4, lines 1-2, Fig. 3 (52), Fig. 2 (14), col. 4, lines 11-14, provide independent video graphics information to each of the four independent displays), and to transmit an identified, second updated portion of second video image data that has changed since a previous transmission to the second display device over the shared communication channel to the second display device (col. 3, lines 50-53, col. 3, lines 60-67, the two ports operating independently allowing the video data to refresh the screens via the ports, col. 4, lines 1-2, Fig. 3 (52), Fig. 2 (16), col. 4, lines 11-14, provide independent video graphics information to each of the four independent displays).

Dye does not teach a first video memory contained within the first display device, and a second video memory contained within the second display device. Knox on the other hand teaches a cathode ray tube controller (CRTC) engine (122) continuously accesses the memory 120 as shown in Fig. 2, and discloses that video systems, removing the CRTC 122 from the video controller 100 and instead places a CRTC within the monitors themselves. See col. 3, lines 32-37.

Therefore, it would have been obvious to one of ordinary skill in the art skill in the art at the time the invention was made to modify Dye's displays (14, 16, 18, 20) shown in Fig. 2 to include Knoxe's incorporation of memories within monitors as illustrated in Fig. 2. Because,

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incorporation of memories helps avoid constant refreshing of the displays, and instead refreshing is handled internally within monitors as taught by Knox (col. 3, lines 58-65).

Regarding claim 15, Knox teaches a protocol handler to interpret the received data stream (col. 4, lines 33-36 and Fig. 3(220). The CRTC/controller 220 can be programmed to display a particular portion of the image described by the image change data from the video controller 200).

Regarding claim 16, Knox teaches a timing generator to generate timing signals for a display (Fig. 3 (216, 200, 220) and col. 4, lines 33-36).

Regarding claim 17, Knox teaches a control circuit to configure the timing generator (Fig. 3 (216, 200, 220) and col. 4, lines 33-36).

Regarding claim 18, Knox teaches a scalar circuit to change a granularity of the video image (Fig. 3 (216, 200, 220) and col. 4, lines 33-36).

Regarding claim 19, Knox teaches a control circuit to configure the scalar circuit(Fig. 3 (216, 200, 220) and col. 4, lines 33-36).

Regarding claim 20, Dye teaches a display interface to at least one of a CRT and a flat panel (Fig. 2 (14, 16, 18, 20).

Regarding claim 21, Knox teaches at least one of a CRT and a flat panel (Fig 2 (212a, 212b)).

Regarding claim 24, Dye teaches the first display device includes a first address decoder to decode a first device address associated with first updated portion of first video image data received over the shared communication channel' and the second display device includes a second address decoder to decode a second device address associated with the second updated portion of second image video data received over shared communication channel (col. 3, lines 4-9).

Regarding claim 26, Dye teaches a non-display device coupled to the shared communication channel to receive non-video data (Fig. 3 (P2) and col. 4, lines 45-51).

Regarding claim 27, Dye teaches the first and second decoders each decode a broadcast address in a broadcast message to be processed by the first and second display device (col. 3, lines 4-9. It would have been obvious to utilize Dye's host applications with respect to queued in dual port RAM (38) in a desired fashion).

Regarding claim 28, Dye teaches the shared communication channel comprises a bus (see Fig. 2(2) and it would have been reconfigure Dye's VME bus 2 shown in Fig. 2 at a different location).

Regarding claim 29, Dye teaches the shared communication channel comprises a daisy chain (See Fig. 3 (P2), and it would have been obvious to utilize the P2 connector in a desired fashion).

Regarding claim 30, Dye teaches the first display device comprising an interface coupled to the shared communication channel; a video memory coupled to the interface, the interface to update the video memory if an address associated with an updated portion of video image data over the shared communication channel matches an address of the first display device and a control circuit to refresh a displayed image in the first display from the video memory. See Fig. 2 (32, P2 14), col. 3, lines 4-9, col. 3, lines 50-53 and col. 3, lines 60-67).

Regarding claim 31, Dye teaches the second display device comprising an interface coupled to the shared communication channel; a video memory coupled to the interface, the interface to update the video memory if an address associated with an updated portion of video image data over the shared communication channel matches an address of the second display device and a control circuit to refresh a displayed image in the second display from the video memory. See Fig. 2 (32, P2 16), col. 3, lines 4-9, col. 3, lines 50-53 and col. 3, lines 60-67).

Regarding claim 32, Dye teaches updating a video memory of the first display device if an address associated with an updated portion of video image data received over the shared communication channel matches a first display device address (col. 3, lines 4-9 and Fig. 2 (32, 14)).

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Regarding claim 33, Dye teaches updating a video memory of the second display device if an address associated with an updated portion of video image data received over the shared communication channel matches a second display device address (col. 3, lines 4-9 and Fig. 2 (32, 16)).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 39-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Knox et al. (USPN 6323854).

Regarding claim 39, Knox teaches a display device comprising a video memory (Fig. 2 (206)); and interface coupled to the video memory (Fig. 2 (200)), the interface to detect an updated portion of video image data received over a shared communication channel (Fig. 2 (210)) and to update the video memory if address associated with the updated portion of video image data matches a display device address; and a control circuit to refresh a display image in the displayed device from the video memory (col. 3, lines 66-67 and col. 4, lines 1-26).

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Regarding claim 40, Knox teaches the interface is to receive the display device address assigned to the display device during display initialization (Fig. 2(200, 212, 216) and col. 4, lines 12-18).

Regarding claim 41, Knox teaches the display device includes one of a CRT and a flat panel (col. 5, lines 9-12).

Regarding claim 42, Knox teaches the shared communication channel comprises one of a bus and a daisy chain (col. 4, lines 9-13).

Regarding claim 43, Knox teaches the updated portion of video image data represents video image data that has changed since a previous transmission to the display device and excludes a substantial portion of the video image data that is unchanged since the previous transmission to the display device (col. 3, lines 58-66 and col. 4, lines 21-26).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art is cited for further reference.

U.S. Pat. No. 6,118,413 to Bril et al.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I Abdulsalam whose telephone number is (571) 272-7685. The examiner can normally be reached on from 9:00 A.M. to 5:30 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272- The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas Abdulsalam

Examiner

Art Unit 2674

March 17, 2004


XIAO WU
PRIMARY EXAMINER